What is clamed is:

1. A semiconductor device comprising:

a first conducting film formed on a semiconductor substrate;

a dielectric deposited on said first conducting film; and

a second conducting film formed on said dielectric,

wherein said dielectric comprises a polycrystalline oxide having a plurality of crystal grains and an amorphous oxide present at the boundaries formed between said crystal grains.

2. A semiconductor device comprising:

a first conducting film formed on a semiconductor substrate;

a dielectric deposited on said first conducting film;

a second conducting film formed on said dielectric,

wherein said dielectric comprises a polycrystalline oxide with a first crystallization temperature, having a plurality of crystal grains, and an amorphous oxide with a crystallization temperature higher than the first crystallization temperature present at boundaries formed between said crystal grains.

3. A semiconductor device comprising:

a first conducting film formed on a semiconductor substrate;

a dielectric deposited on said first conducting film; and

a second conducting film formed on said dielectric,

wherein said dielectric comprises a polycrystalline oxide with a first dielectric constant and first crystallization temperature, having a plurality of crystal grains, and an amorphous oxide, having a lower dielectric constant than said first dielectric constant and a higher crystallization temperature than said first crystallization temperature, present at boundaries formed between said crystal grains.

4. A semiconductor device having a capacitor comprising:

a first electrode of said capacitor comprising a first conducting film formed on a semiconductor substrate;

a dielectric deposited on said first electrode; and

a second electrode of said capacitor comprising a second conducting film formed on said dielectric,

wherein the dielectric comprises a polycrystalline oxide having a plurality of crystal grains and an amorphous oxide present at boundaries formed between said crystal grains.

5. A semiconductor device according to claim 1, wherein said polycrystalline oxide comprises niobium pentoxide.

6. A semiconductor device according to claim 1, wherein said polycrystalline oxide comprises niobium pentoxide, and the amorphous oxide comprises tantalum pentoxide.

7. A semiconductor device according to claim 1, wherein the content of the amorphous oxide in said dielectric is from 5% to 50%.

8. A semiconductor device according to claim 1, wherein the amorphous oxide comprises at least one oxide selected from among tantalum, silicon, titanium, and tungsten.

9. A semiconductor device according to claim 1, wherein the film thickness of said dielectric is from 5 nm to 20 nm.

10. A semiconductor device according to claim 4, wherein said first electrode comprises a material selected from ruthenium, platinum, copper, titanium nitride, tantalum nitride and tungsten nitride.

11. A semiconductor device according to claim 4, wherein said first electrode comprises polycrystalline silicon and

a silicon oxide film exists between said first electrode and said dielectric.

12. A manufacturing method of a semiconductor device having a capacitor comprising the steps of:

forming said capacitor on a semiconductor substrate;

depositing a dielectric, comprising a first oxide with a first crystallization temperature and a second oxide with a second crystallization temperature higher than said first crystallization temperature; and

heat-treating said dielectric at a temperature equal to or higher than said first crystallization temperature and lower than said second crystallization temperature, whereby said first oxide crystallizes and said second oxide remains amorphous.

13. A manufacturing method of a semiconductor device having a capacitor comprising the steps of:

forming said capacitor on a semiconductor substrate;

depositing a dielectric, comprising a first oxide with a first crystallization temperature and a second oxide with a second crystallization temperature higher than said first crystallization temperature;

heat-treating said dielectric with a temperature equal to or higher than said first crystalline temperature and lower than said second crystalline temperature; and

forming a second electrode for said capacitor on said dielectric.

14. A manufacturing method of a semiconductor device according to claim 12, wherein said first oxide is niobium pentoxide and said second oxide is tantalum pentoxide.

15. A manufacturing method of a semiconductor device according to claim 12, wherein said heat-treatment temperature is from 400°C to 700°C.

16. A manufacturing method of a semiconductor device according to claim 12, wherein said amorphous oxide is tantalum pentoxide and said dielectric is formed by a chemical vapor deposition technique using a mixed raw material comprising pentaethoxy tantalum and pentaethoxy niobium.

17. A manufacturing method of a semiconductor device according to claim 16, wherein said mixed raw material contains pentaethoxy tantalum with a proportion of 5% to 50%.

18. A manufacturing method of a semiconductor device according to claim 12, wherein said first electrode comprises a material selected from ruthenium, platinum, copper, titanium nitride, tantalum nitride and tungsten nitride.

19. A manufacturing method of a semiconductor device according to claim 12, wherein said first electrode comprises polycrystalline silicon and a silicon oxide film is present between said first electrode and said dielectric.

20. A semiconductor device according to claim 2, wherein said polycrystalline oxide comprises niobium pentoxide.

21. A semiconductor device according to claim 2, wherein said polycrystalline oxide comprises niobium pentoxide, and the amorphous oxide comprises tantalum pentoxide.

22. A semiconductor device according to claim 2, wherein the proportion of the amorphous oxide in said dielectric is from 5% to 50%.

23. A semiconductor device according to claim 2, wherein the amorphous oxide comprises at least one oxide selected from among tantalum, silicon, titanium, and tungsten.

24. A semiconductor device according to claim 2, wherein the film thickness of said dielectric is from 5 nm to 20 nm.

25. A semiconductor device according to claim 3, wherein said polycrystalline oxide comprises niobium pentoxide.

26. A semiconductor device according to claim 3, wherein said polycrystalline oxide comprises niobium pentoxide, and the amorphous oxide comprises tantalum pentoxide.

27. A semiconductor device according to claim 3, wherein the proportion of the amorphous oxide in said dielectric is from 5% to 50%.

28. A semiconductor device according to claim 3, wherein the amorphous oxide comprises at least one oxide selected from among tantalum, silicon, titanium, and tungsten.

29. A semiconductor device according to claim 3, wherein the film thickness of said dielectric is from 5 nm to 20 nm.

30. A semiconductor device according to claim 4, wherein said polycrystalline oxide comprises niobium pentoxide.

31. A semiconductor device according to claim 4, wherein said polycrystalline oxide comprises niobium pentoxide, and the amorphous oxide comprises tantalum pentoxide.

32. A semiconductor device according to claim 4, wherein the proportion of the amorphous oxide in said dielectric is from 5% to 50%.

33. A semiconductor device according to claim 4, wherein the amorphous oxide comprises at least one oxide selected from among tantalum, silicon, titanium, and tungsten.

34. A semiconductor device according to claim 4, wherein the film thickness of said dielectric is from 5 nm to 20 nm.

35. A manufacturing method of a semiconductor device according to claim 13, wherein said first oxide is niobium pentoxide and said second oxide is tantalum pentoxide.

36. A manufacturing method of a semiconductor device according to claim 13, wherein said heat-treatment temperature is from 400°C to 700°C.

37. A manufacturing method of a semiconductor device according to claim 13, wherein said amorphous oxide is tantalum pentoxide and said dielectric is formed by a chemical vapor deposition technique using a mixed raw material comprising pentaethoxy tantalum and pentaethoxy niobium.

38. A manufacturing method of a semiconductor device according to claim 13, wherein said first electrode comprises a material selected from ruthenium, platinum, copper, titanium nitride, tantalum nitride and tungsten nitride.

39. A manufacturing method of a semiconductor device according to claim 13, wherein said first electrode comprises polycrystalline silicon and a silicon oxide film is present between said first electrode and said dielectric.